Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently amended): ~~Bottoming~~ A bottoming device for forming cross bottom paper bags ~~(1)~~, the device

- ~~that forms~~ forming the cross bottoms ~~(1)~~ of the paper bags
- ~~in that it implements~~ by providing folds at the extremities of tubular segments from which the bags ~~(1)~~ are produced
- ~~that in this manner applies~~ such that glue layers are applied to the folded bottoms ~~(1)~~ on the extremities of the tubular segments and/or the sheets ~~(2)~~ intended to be glued with the bottoms ~~(1)~~ with the help of gluers ~~(10, 20, 30, 40)~~ and
- ~~connects~~ connecting and ~~glues~~ gluing the folded bottoms ~~(1)~~ and the sheets ~~(2)~~,

~~characterized by the fact that~~

- the device comprising at least one gluer ~~(10, 20, 30, 40)~~
- ~~that is~~ equipped with at least one glue reservoir ~~(21)~~ or at least one glue duct ~~(33, 52, 53)~~ in which glue is exposed to a pressure that is higher than the ambient pressure
- ~~and whereby~~ such that the at least one glue reservoir ~~(21)~~ or the at least one glue duct ~~(33, 52, 53, 55, 72, 73)~~ is provided with at least one glue output orifice ~~(71)~~ through which glue is directly applied on the sheets ~~(2)~~ and/or folded bottoms ~~(1)~~.

2. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 1 ~~characterized by the fact that~~ wherein the glue transfer can be carried out between the at least one glue output orifice ~~(71)~~ or other glue carrying components of the bottoming device and the sheets ~~(2)~~ and/or folded bottoms ~~(1)~~ in a contact-free manner.

3. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 1 ~~characterized by the fact that~~ wherein the glue ducts ~~(33, 52, 53, 55, 72, 73)~~ that supply glue to the glue output orifices ~~(71)~~ have at least one valve ~~(32)~~.

4. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 1 ~~characterized by the fact that~~ wherein

- in the gluing station ~~(10, 20, 30, 40, 50, 60, 70)~~ an application head ~~(31, 41, 50, 60, 80)~~ is provided
- that contains at least one component of at least one glue reservoir ~~(21)~~ or of at least one glue supply line ~~(33, 52, 53, 55, 72, 73)~~ and
- to which at least one glue output orifice ~~(71)~~ is assigned.

5. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 4 ~~characterized by the fact that~~ wherein the application head ~~(31, 41, 50, 60, 80)~~ has several glue output orifices ~~(71)~~.

6. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 5 ~~characterized by the fact that~~ wherein the application head ~~(31, 41, 50, 60, 80)~~ has a plate-like form ~~(61)~~ whereby the glue output orifices ~~(71)~~ are provided on the side ~~(76)~~ facing the bag component to be glued.

7. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 4 ~~characterized by the fact that~~ wherein valves ~~(32)~~ are attached to the application head ~~(31, 41, 50, 60, 80)~~.

8. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 7 ~~characterized by the fact that~~ wherein the valves ~~(32)~~ are attached on ~~the~~ a side ~~(66)~~ of the application head ~~(31, 41, 50, 60, 80)~~ facing away from the bag components to be glued.

9. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 7 ~~characterized by the fact that~~ wherein at least one component of the glue output orifices ~~(71)~~ in ~~the~~ a direction in space (y) running transverse to ~~the~~ a transfer direction have a distance (A) between one another that is smaller than ~~the~~ a breadth (B) of the valves ~~(32)~~.

10. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 7 ~~characterized by the fact that~~ wherein more glue output orifices ~~(71)~~ than valves ~~(32)~~ are provided on the application head ~~(31, 41, 50, 60, 80)~~.

11. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 5 ~~characterized by the fact that~~ wherein the glue output orifices ~~(71)~~ that are provided in the application head ~~(31, 41, 50, 60, 80)~~ are located in one line running essentially transverse to the transfer direction (y) of the bag components ~~(1,2)~~ to be glued.

12. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 5 ~~characterized by the fact that~~ wherein

the valves ~~(32)~~ are provided with glue by at least one borehole or chamber ~~(52, 53)~~ in the application head ~~(31, 41, 50, 60, 80)~~.

13. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 12 ~~characterized by the fact that~~ wherein at least one borehole or chamber ~~(52, 53)~~ runs essentially transverse to the transfer direction (x) of the bag components ~~(1,2)~~.

14. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 7 ~~characterized by the fact that~~ wherein at least one part of the valves ~~(32)~~ on the application head ~~(31)~~ is arranged in the direction running offset to the transfer direction (x) of the bag components ~~(1, 2)~~.

15. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 14 ~~characterized by the fact that~~ wherein the valves ~~(32)~~ are arranged in different rows (VR1, VRn) that run transverse (y) to the transfer direction (x) of the bag components ~~(1, 2)~~.

16. (Currently amended): Bottoming device in accordance with claim 4 ~~characterized by the fact that~~ wherein the application head ~~(31, 41, 50, 60, 80)~~ is mobile transverse to the transfer direction (y) of the bag components ~~(1, 2)~~ to be glued.

17. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 4 ~~characterized by the fact that~~ wherein the application head ~~(31, 41, 50, 60, 80)~~ can swivel from the glue application position.

18. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 17 ~~characterized by the fact that~~ wherein the rotatable application head ~~(31, 41, 50, 60, 80)~~ can take up standstill positions dedicated to various definite functions.

19. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 18 ~~characterized by the fact that~~ wherein at least two standstill positions of the application head ~~(31, 41, 50, 60, 80)~~ are intended that are dedicated to at least two of the following functions:

- ~~application of~~ applying glue on the bag components ~~(1, 2)~~ to be glued
- sealing the glue output orifices ~~(71)~~
- ~~wipe~~ wiping off the glue contaminating the application head ~~(31)~~ and
- ~~rinse~~ rinsing the application head ~~(31)~~.

20. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 4 ~~characterized by the fact that~~ wherein the distance between the output orifices ~~(71)~~ can be freely selected during the application of glue on the bag components ~~(1, 2)~~ to be glued.

21. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 1 ~~characterized by the fact that~~ wherein the at least one glue duct ~~(33, 52, 53, 55, 72, 73)~~ or the at least one glue reservoir ~~(21)~~ has a water connection.

22. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 21 ~~characterized by the fact that~~ wherein the water connection has a check valve.

23. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 1 ~~characterized by the fact that~~ wherein the at least one glue duct ~~(33, 52, 53, 55, 72, 73)~~ or the at least one glue reservoir ~~(21) has~~ further comprises at least one of ~~the following characteristics:~~ a

- a pressure relief valve,
- a pressure sensor, and
- a pressure controller.

24. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 1 ~~characterized by the fact that~~ wherein

- the application head ~~(31)~~ has a projection on the side (76) facing the bag components ~~(1, 2)~~ to be glued, and
- ~~this~~ the projection is closer than the output orifices (71) during the glue application of the bag components to be glued (1, 2).

25. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 4 ~~characterized by the fact that~~ wherein the application head ~~(31)~~ is provided with glue and/or water by flexible lines.

26. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 3 ~~characterized by the fact that~~ wherein

- at least one valve ~~(32)~~ that provides at least one glue output orifice ~~(71)~~ with glue can be controlled independent of the other valves ~~(32)~~,
- so that the application of the glue line ~~(3)~~ produced from the at least one glue output orifice ~~(71)~~ can be started and stopped selectively.

27. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 26 ~~characterized by the fact that~~ wherein the opening and closing of the at least one valve ~~(32)~~ can be carried out ~~also~~ during the glue application of a bag component ~~(1, 2)~~ to be glued.

28. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 3 ~~characterized by the fact that~~ wherein at least 5 valves ~~(32)~~ are provided.

29. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 9 ~~characterized by the fact that~~ wherein ~~the~~ a sum (D) of the distances (A) between the glue output orifices that are fed with glue from a valve in the direction in space running transverse (y) to the transfer direction (x) of the bag components ~~(1, 2)~~ to be glued is smaller than the breadth (B) of the valves ~~(32)~~.

30. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 1 ~~characterized by the fact that~~ wherein the glue channels ~~(52, 53)~~ that transport the glue to a majority of valves ~~(32)~~ have a common cross-sectional area that is at least half as large as the sum of the cross-sectional areas of the glue output orifices ~~(71)~~ that extrude this glue.

31. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 1 ~~characterized by the fact that~~ wherein a metallic cylinder hard counter bearing[[-]]~~preferentially a metallic cylinder~~[[-]]is provided on which the bag components ~~(1, 2)~~ to be glued are located during the glue application.

32. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 3 ~~characterized by the fact that~~ wherein in the transfer direction of the glue to the valves more stoppers are provided with which the glue channels ~~(72, 73, 77, 115)~~ and/or glue output orifices ~~(71, 113)~~ can be sealed.

33. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 32 ~~characterized by the fact that~~ wherein the sealability of the glue channels ~~(72, 73, 77, 115~~) and/or glue output orifices ~~(71, 113)~~ is ensured by pins ~~(120)~~ and/or screws.

34. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 33 ~~characterized by the fact that~~ wherein the sealing of the channels ~~(115)~~ and/or glue outlet openings takes place with pins ~~(120)~~ that are held rotatably in a format plate system ~~(119)~~, that ~~(120)~~ have a glue outlet that seals the channels ~~(115)~~ and/or output orifices ~~(113)~~ when the pins ~~(120)~~ are rotated.

35. (Currently amended): ~~Bottoming~~ The bottoming device in accordance with claim 33 wherein the pins ~~(120)~~ or screws are inserted in at least a part of the output orifices ~~(113)~~ whereby the main axes of inertia of the pins ~~(120)~~ or screws coincide with the axis of the output orifice ~~(113)~~.

36. (Currently amended): ~~Process~~ A process for the operation of a bottoming device in accordance with claim 3 ~~characterized by the fact that~~ wherein

- at least one valve ~~(32)~~
- that is active during the formation of a definite glue format ~~(4)~~

- is opened or closed at other points of time than the other valves ~~(32)~~ during the gluing of a bag component ~~(1, 2)~~.

37. (Currently amended): ~~Process~~ The process in accordance with claim 36 ~~characterized by the fact that the~~ wherein a period between the opening and the closing of the valve ~~(32) amounts to~~ is less than 5 milliseconds.